



West Nile Virus Newsletter

This is an electronic publication designed to keep you informed on issues of interest related to West Nile virus (WNV) in Washington, and provide current information to assist you in developing a response plan to WNV in your jurisdiction.

St. Louis Encephalitis

Although the suspected WNV case in a Franklin County man has been determined to be a probable case of infection with St. Louis encephalitis (SLE) virus, the overall response, as well as prevention and control recommendations, remain basically the same. SLE has caused illness in Washington in the past and has been undetected for the last several years due to the absence of comprehensive surveillance programs statewide. This finding emphasizes the importance of developing and maintaining mosquito-borne disease surveillance as a routine public health program.

Environmental surveillance for SLE is most effectively done through the use of sentinel chicken flocks, capture and testing of wild birds, and/or testing of mosquito pools. Dead bird surveillance is not an effective mechanism to detect SLE activity, as birds are reservoirs but do not die from the virus. The Benton County Mosquito Control District is using sentinel chicken flocks as well as testing mosquito pools, however, as of June 16, no mosquito-borne viral activity has been detected.

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Surveillance News

There have not been any positive surveillance findings in birds or horses in Washington to date. Approximately 125 birds have been submitted to the laboratory and specimens from 21 horses have been examined.

The only other western state with positive WNV findings as of June 15, 2003 is Wyoming as reflected in the recent posting on ProMED:

Wyoming (May 31): Evidence of WNV appeared for the first time in Wyoming this mosquito season in the form of a dead blue jay found east of Cheyenne according to Terry Creekmore. Creekmore said he wasn't surprised that Laramie County was the first to detect WNV virus this season. "The area has lower elevation and is further south," he said -- a warmer environment for

mosquitoes to either emerge from winter shelter or hatch in standing water. Last year, the state public health lab tested 90 human cases with two positives; the state veterinary lab tested 342 horses with 96 positives and 273 birds with 20 positives.

Communicable Disease Epidemiology Update

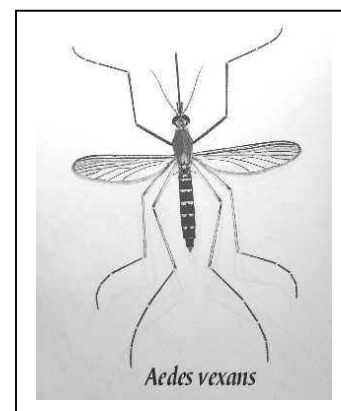
A WNV clinical update will be sent to more than 19,000 Washington state licensed physicians, nurse practitioners, and physician assistants this week. The mailout includes a cover letter, a referenced description of clinical presentations and transmission routes, a bulleted clinical fact sheet and CDC's summary of the 2002 WNV epidemic/epizootic.

Mosquito Focus – *Aedes vexans*

Aedes vexans is one of the most common floodwater mosquitoes and is found in large numbers in overflow areas along rivers and is most abundant on bottomlands along the lower Columbia River. This species also breeds in large numbers in irrigated areas and larvae can be found in any transient water.

Eggs are laid in temporary bodies of freshwater and may remain viable for years if the water recedes prior to hatching. The species overwinters as eggs, which initially hatch in the spring, usually late May or June in Washington. There may be several generations per year and larvae are present from late spring through fall.

Aedes vexans is an important pest species but has also been found naturally infected with Western Equine Encephalitis virus and is considered to be a potential vector species for WNV. It is also a vector of dog heartworm. They are vicious biters, feeding mainly at dusk, but will also bite during the day. They prefer birds, domestic animals, and humans for their blood meals and will travel up to 20 miles from their breeding location.



Local Health Focus

A new feature to the newsletter will be periodic descriptions and updates of local health jurisdiction activities. If you would like to contribute to this section with either an overall description of your WNV program or by highlighting a particular activity, please contact Jack Lilja at (360) 236-3366 or jack.lilja@doh.was.gov. Randy Darst with the Snohomish Health District provided the following information on their program.

The Snohomish Health District WNV response plan focuses on public education and surveillance activities including dead birds, mosquitoes, horse and human. The program is coordinated by Mike Young, Senior Environmental Health Specialist (EHS), who works with Amanda Zych, EHS and Carrie Parker, Health Educator.

Mike has been very busy focusing on educating and training city and county employees on WNV including larvae surveillance and mosquito control strategies. We are fortunate to offer many of our trainings in cooperation with Dave Pehling, an entomologist with the Snohomish County WSU Agriculture Extension Office.

Amanda Zych, who has just completed her Masters thesis on identifying WNV vector species in storm water ponds in King County, brings to us valuable expertise in developing a mosquito surveillance plan and experience with trapping. Our mosquito surveillance plan divides Snohomish County into eight geographic areas. Each area is being surveyed once a month using eight CO2 traps at set locations. This comprehensive survey will provide us with data on mosquito species, densities, and associated seasonal variations. We also have a number of volunteers trapping at various locations.

As most local health jurisdictions are likely experiencing, dead crow reporting and collecting is quickly becoming overwhelming. In the period between March 1 through June 13, we have received 430 dead bird reports and collected 45 for testing. We have set up a WNV hotline (425-339-8720) that provides general information to the public and allows reporting of dead birds 24-hours a day. The hotline has helped to reduce the number of calls from the public to emergency phone numbers. All data from our mosquito and bird surveillance is being mapped using GIS technology, which allows us to overlay locations of storm water facilities, wetlands, schools, parks, and demographic information.

Our public education campaign is initially focused on the higher risk groups. Carrie Parker has been busy with WNV presentations at senior centers and retirement communities as well as 4-H groups, master gardeners, church groups, and homeowner and neighborhood associations. We are also providing outreach activities to schools and school nurses, stables, farm feed stores, and veterinarians. We are now prepared with WNV informational signs to post in city/county parks and play fields, and we are ready to roll out public service announcements on local radio as we move into the higher risk season.

The Snohomish Health District Communicable Disease Division staff is providing information to the medical community and the public about human illness, symptoms, and clinical issues. They have recently started active WNV human surveillance (regular calls to health care providers) at a number of facilities in Snohomish County

If you would like additional information about the program please contact Randy Darst at 425-339-5250 or email at rdarst@shd.snohomish.wa.gov.

Comparative Study of Insect Repellents

The July 4, 2002, volume of The New England Journal of Medicine contains an article entitled “The Comparative Efficacy of Insect Repellents against Mosquito Bites.” It describes a study using volunteers to test seven botanical insect repellents; four products containing DEET, a repellent containing IR3535 (ethyl butylacetylaminopropionate), three repellent-impregnated wristbands, and a moisturizer that is commonly claimed to have repellent effects. Products were tested in a controlled environment in which the species of mosquitoes, their age, their degree of hunger, humidity, temperature, and light-dark cycle were all kept constant.

The study found that DEET based products provided complete protection for a substantially longer duration than the other formulations. Higher concentrations of DEET provided longer-lasting protection. Repellent-impregnated wristbands offered no protection.

The article is available at: <http://content.nejm.org/cgi/content/full/347/1/13>.

Avian Deaths as a Sentinel for West Nile Virus Infection in Humans

Two recent articles describe the use of crow and other bird mortalities as a predictor for West Nile virus infection in humans. The studies use predictive models based on factors such as time of bird deaths and human cases, numbers of bird deaths, and numbers of WNV infected birds. “Early-Season Avian Deaths from West Nile Virus as Warnings of Human Infection” appears in the April 2003 edition of Emerging Infectious Diseases on CDC’s Web site www.cdc.gov/ncidod/EID/vol9no4/02-0421.htm. “Early Season Crow Mortality as a Sentinel for West Nile Virus Disease in Humans, Northeastern United States” is in the Journal of Vector Borne and Zoonotic Diseases, Volume 2, Number 3, 2002. Reprints can be obtained from: aam0@cdc.gov.

Community Comments

Let us hear your comments on this newsletter, your needs, or things you would like to see, by sending them to Maryanne Guichard, (360) 236-3391 or maryanne.guichard@doh.wa.gov.

WNV Web Resources

Washington State Department of Health www.doh.wa.gov/wnv

Center for Disease Control <http://www.cdc.gov/ncidod/dvbid/westnile/>

Washington State University Cooperative Extension <http://wnv.wsu.edu/>

Cornell University, Center for Environment <http://www.cfe.cornell.edu/erap/WNV>

DOH Contact List for West Nile Virus

General Public Toll-Free Hotline 1-866-78VIRUS

Publications: Brochures/Response Plan/Fact Sheets

Laura Harper, (360) 236-3380, or laura.harper@doh.wa.gov.

Surveillance: Mosquito

Jo Marie Brauner, (360) 236-3064, or jomarie.brauner@doh.wa.gov.

Surveillance: Dead bird surveillance and general WNV response

Tom Gibbs, (360) 236-3060, or tom.gibbs@doh.wa.gov.

Surveillance: Horses, case reporting, laboratory assistance

Dr. John Grendon, (360) 236-3362, or john.grendon@doh.wa.gov.

NPDES: Training, technical assistance

Ben Hamilton, (360) 236-3364, or benjamin.hamilton@doh.wa.gov.

WNV in Humans: Clinical information, case reporting, and laboratory testing

Call your local health jurisdiction or DOH Communicable Disease Epidemiology, (206) 361-2914 or (877) 539-4344.

Assistance with news releases and media response

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To subscribe to this newsletter

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